

**Grant Proposal
State of Florida Recycling Innovative
Grant Program (2002-2003)**

Project Title: Use of Waste Materials as Aggregate in the Manufacture of Pre-cast Concrete Products

Applicant Name: Leon County in partnership with the Southern Waste Information Exchange, Inc. (SWIX), CDS Manufacturing, Inc. (CDS) and American Rubber Technologies, Inc. (ART)

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Grant Request Amount: \$150,000

Project Time Frame: Twelve Months

Targeted Materials: Waste Tires, Commercial/Institutional Sector Waste (fly ash, industrial fiber glass scrap and glass cullet)

Project Abstract:

Leon County proposes to team with SWIX, CDS, and ART to pilot and develop a light-weight filler which will reduce the need for cement and other virgin aggregate to create products that are less expensive from a production, transportation and environmental standpoint.

The project will be used as a pilot to determine the economic and technical feasibility of using variously sized targeted materials, including collection, transportation, and processing/handling costs. This research is very important for assuring the transferability of this innovative use of these materials.

The project would also target a material (i.e. used tires) which has a disposal fee associated with it and which now exclusively funds the State of Florida's Solid Waste Management Trust Fund.

Description of the Project:

Leon County/Tallahassee (population approximately 240,000) is currently shipping tires to Georgia through a contractor at a cost of \$80/ton. The County is looking for alternative markets for all or some of their waste tires that are delivered to the County landfill from residents and some local businesses, and picked up from illegal dumpsites throughout the County.

Leon County collects 1,300 tons of tires at it's landfill site annually. The County currently pays \$104,000 each year to an out of state contractor to process these tires for burning as fuel in industrial boilers.

This proposed project would take approximately 20% (260 tons) of this annual tire tonnage, load and transport the whole tires to an existing tire processor in Jacksonville, Florida (i.e., American Rubber Technologies or ART) for processing the tires into various mesh or tire chip sizes.

The processed tire materials would then be shipped back to Quincy, Florida where they would be used by CDS Manufacturing, Inc. along with fly ash, industrial fiberglass scrap or glass cullet as an aggregate substitute to make various concrete products, including septic tanks, underground vaults, and architectural pre-cast elements. These types of products currently use virgin materials as their process input. The new products, because they would use targeted material as aggregate, are expected to make the resulting products (i.e., septic tanks, underground vaults, architectural pre-cast elements) lighter, easier and less expensive to transport, perhaps stronger on a weight ratio basis, and also more cost competitive with same products made solely with virgin ingredients.

This project would demonstrate both the technical and economic feasibility of using targeted materials to make products described previously for potential future application by manufacturers of like products throughout the State of Florida.

It is also projected to:

1. Save Leon County's Solid Waste Department money.
2. Save selected industries in Leon, Taylor and Liberty County disposal fees.
3. Enhance environmental protection and landfill space by using targeted materials for manufacturing a product rather than being burned or landfilled.
4. Provide important economic and technical feasibility research for using targeted materials as a substitute for virgin use in several manufactured products.